

Name: \_\_\_\_\_

**pa1106: Factoring with box when  $a = \text{prime}$  (v20)**

**Example**

Use the box to factor  $2x^2 - 9x - 18$ .

Guess and check, based on factor pairs of  $-18$ , until you find the pair that results in a linear coefficient of  $-9$  after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	$-18$

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER:  $(2x + 3)(x - 6)$

**Question 1**

Use the box to factor  $5x^2 + 43x + 24$ .

*	x	
5x	$5x^2$	$40x$
3	$3x$	24

ANSWER:  $(5x + 3)(x + 8)$

### Question 2

Use the box to factor  $3x^2 + 11x - 42$ .

*	x	6
3x	$3x^2$	$18x$
$-7$	$-7x$	$-42$

ANSWER:  $(3x - 7)(x + 6)$

### Question 3

Use the box to factor  $7x^2 - 64x + 64$ .

*	x	$-8$
$7x$	$7x^2$	$-56x$
$-8$	$-8x$	$64$

ANSWER:  $(7x - 8)(x - 8)$